

REMARKS/ARGUMENTS

This paper is responsive to the Office Action dated December 3, 2003, having a shortened statutory period expiring on March 3, 2004, wherein:

Claims 1-39 were previously pending in the application;

Claims 1-2, 6, 8-9, 22-23, 27, 29-32, and 38-39 were rejected;

Claims 10-21 were allowed; and

Claims 3-5, 7, 24-26, 28, and 33-37 were objected to as being each dependent upon a rejected base claim, but indicated as being otherwise allowable if rewritten in independent form including the limitations of their respective base claims and any intervening claims.

No claims have been amended, added, or canceled by this amendment. Accordingly, claims 1-39 remain currently pending.

Applicants wish to express their appreciation for the allowance of claims 10-21 and indicated allowability of claims 3-5, 7, 24-26, 28, and 33-37.

Rejection of Claims under 35 U.S.C. §102

In the present Office Action, claims 1-2, 6, 22-23, 27, 31-32, and 38 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,132,104 issued to Bliss (hereinafter, "**Bliss**"). While not conceding that the Examiner's cited reference(s) qualify as prior art, but instead to expedite prosecution, Applicants have chosen to respectfully disagree and traverse the rejection as follows. Applicants reserve the right, for example, in a continuing application, to establish that one or more of the Examiner's cited references do not qualify as prior art as to an invention embodiment previously, currently, or subsequently claimed.

With respect to Applicants' claim 1, the Examiner states within the present Office Action that **Bliss**' device discloses an optical device comprising,

...a printed circuit board assembly (see abstract), a plurality of optical components such as laser pump card, optical fiber amplifier, printed board (12, 16), plurality of electrical component such as semiconductor chip components, a heat sink (20, 20') for dissipating heat, attached or interfaced directly to the electrical and optical components (see col. 5) used in data signal transmission....

Applicants respectfully disagree and submit that *Bliss* fails to teach all elements of Applicants' claims. Applicants additionally submit that it is unclear in the present Office Action whether the Examiner has intended to indicate base plate 12 or printed circuit board 16 of *Bliss* as teaching "a printed circuit board" as claimed by Applicants. Clarification is respectfully requested. Irrespective of whether the Examiner intended to indicate base plate 12 or printed circuit board 16 however, it is respectfully submitted that *Bliss* fails to teach "a heatsink attached to the printed circuit board wherein the heatsink interfaces directly with a plurality of the electrical and optical components" as claimed by Applicants (Applicants' claim 1, emphasis supplied).

Applicants submit that *Bliss* teaches a single component, pump laser 18, as being connected to or attached to heatsink 20 (see, e.g., *Bliss*, Fig. 1). More specifically, *Bliss* teaches, "One surface of the pump laser 18, namely the base 18a which has a thermal electric cooler and a semiconductor chip mounted thereon, is connected to the side of the heat sink 20 facing the printed circuit board 16." (*Bliss*, Column 5, Lines 9-12, emphasis supplied) *Bliss* further teaches that, "the plurality of fins 40 are located on the top side of the heat sink 20, facing the outside of the detachable plug-in pump laser card assembly 14, and are on an opposite side of the heat sink 20 from where the pump laser 18 is flushly attached." (*Bliss*, Column 5, Lines 29-33, emphasis supplied)

The Examiner's cited portion of *Bliss* fails however to teach any other components (e.g., "semiconductor chip components") which are connected or attached to heatsink 20 and consequently fails to teach a heatsink which interfaces directly with a plurality of components (e.g., "a plurality of the electrical and optical components") as claimed. Applicants respectfully request that the Examiner indicate with greater specificity, as required by 37 C.F.R. §1.104(c)(2), that portion of *Bliss* which is believed to teach a plurality of electrical and optical components which interface directly with a heatsink as required by Applicants' claim(s).

For at least the foregoing reasons, Applicants submit that Applicants' claim 1, as currently presented, is allowable over *Bliss* and request that the Examiner's current rejection(s) be withdrawn. Applicants' claims 22 and 31 each contain one or more limitations substantially similar to those described with respect to Applicants' claim 1 and are therefore allowable for at least those reasons stated for the allowability of claim 1. In addition to the Examiner's reasons for allowability, all remaining claims, depending directly or indirectly from Applicants' claims 1, 22, and 31, are similarly allowable over *Bliss* for at least the reasons stated herein.

Rejection of Claims under 35 U.S.C. §103

In the present Office Action, claims 8-9, 29-30, and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bliss*. More specifically, in the present Office Action the Examiner states,

Bliss'...fails to explicitly disclose the exact location for different components on the printed circuit board. It would have been obvious to one having ordinary skill in art at the time the invention was made to place different component in different locations, since it has been held that rearranging of part of an invention involves only routine skill in the art. In re Japike, 86 USPQ 70. It would have been obvious to one having ordinary skill in art at the time the invention was made to place different components in different locations for improving the system interconnection by placing at suitable location to avoid over-heating.

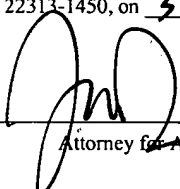
Applicants respectfully disagree. As an initial matter, Applicants respectfully submit that not all of the claims rejected by the Examiner under 35 U.S.C. § 103 relate or relate exclusively to the position or placement of components on a printed circuit board. For example, Applicants' claim 39 recites, an apparatus, "wherein material is removed from the bottom of one or more portions of the heatsink to accommodate one or more of the electrical or optical components."

Applicants further submit that no specific suggestion or motivation has been provided in the present Office Action for one or more of Applicants' remaining rejected claims. Applicants' claim 8, for example, recites a printed circuit board assembly wherein, "the electrical and optical components for receiving data are positioned on one section of the printed circuit board, and the electrical and optical components for

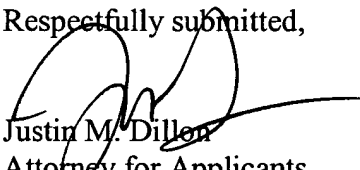
transmitting data are positioned on another section of the printed circuit board.” Applicants respectfully submit that the statement that, “It would have been obvious to one having ordinary skill in art at the time the invention was made to place different components in different locations for improving the system interconnection...to avoid over-heating” fails to describe how positioning components for transmitting data and receiving data on different sections of a printed circuit board improves “system interconnection” or avoids “over-heating”. Consequently, and without some other suggestion or motivation to combine or modify *Bliss*, Applicants submit that the present Office Action fails to establish a *prima facie* case of obviousness.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5097.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Non-Fee Amendment, COMMISSIONER FOR PATENTS, P. O. Box 1450, Alexandria, VA 22313-1450, on <u>3/3</u> , 2004.	
 _____ Attorney for Applicant(s)	<u>3/3/04</u> _____ Date of Signature

Respectfully submitted,


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